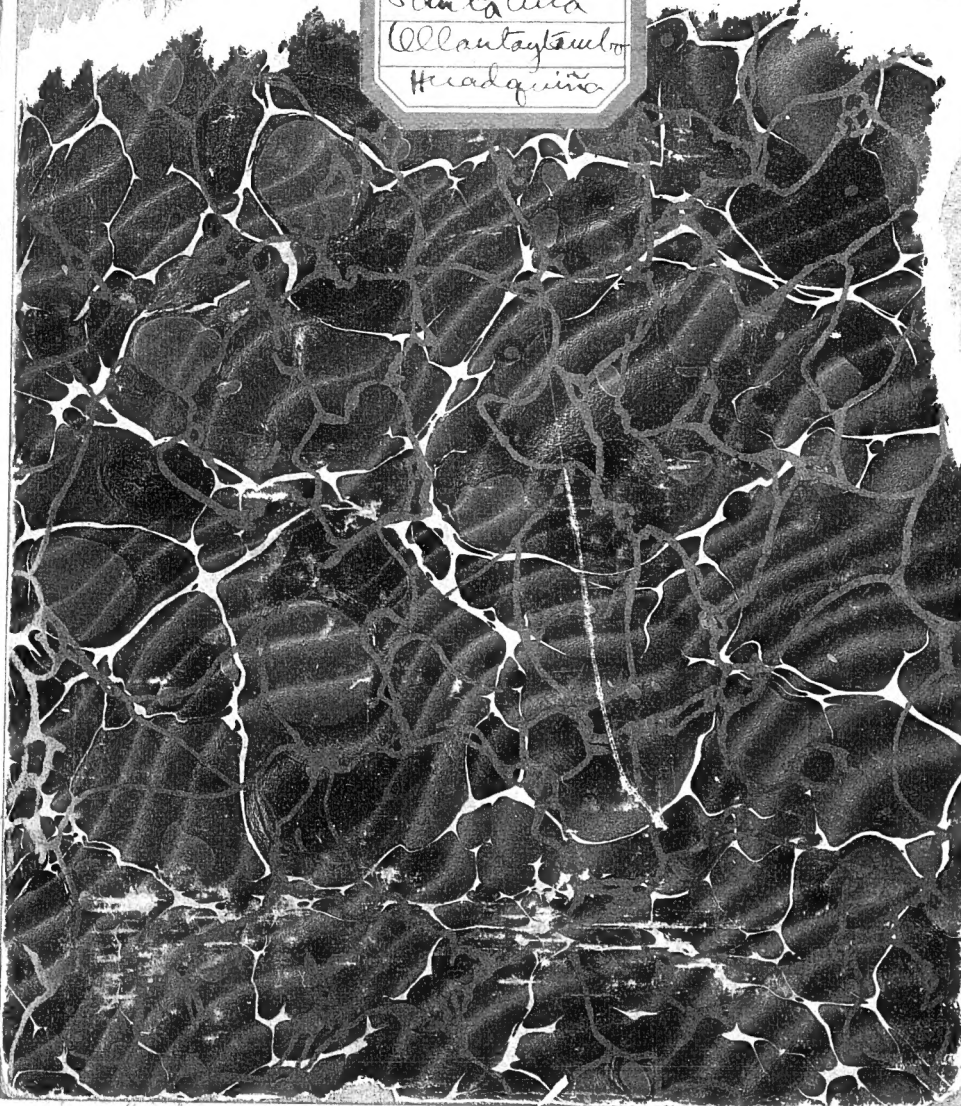
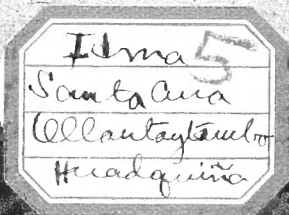


No. 5



Feb 7. Left Pueris at 10 AM, &
drove through Moreno to Banning
where we arrived at 11 P.M. Considerable
snow on road in the Bad Lands &
through San Geronimo Pass. About the
eastern edge of San Jacinto Mts. noticed
many desert willows in the canons

Feb 8: Rained in AM, so remained in
Hotel in Banning. Set out a few gopher
& mouse traps. Caught 3 gophers &
3 *Peromyscus* sp., & 1 *Perodipus*.

Feb 9: Started at 10 AM. for Whitewater,
where we arrived at 3 PM. Near Banning
saw a *Sper.* *leucurus* which is perhaps
their western limit. at Calexico saw
the first mesquite & creosote bushes. About
Banning *Opuntia basilaris* is the
commonest form but does not extend
as far down as Whitewater where the
desert cholla begins. *Visnagas* &
small ~~*Opuntia*~~ ^{*Cercus*} are first met with.

Feb 10: Left Whitewater for Palm Springs.
A light snow-storm prevailed
most of the way. Took up quarters in
a house south of the village

Feb 11: Left Palm Springs for Morongo Pass
In Coachella Desert above the station noticed
considerable bunches of giant grass. Further up
this desert is covered by the large cholla (The
castles of ranchers) also much *Yucca* & *Sarcobatus*
are seen over 6 ft. high. A few small *Yucca* &
Opuntia with flowers. *Opuntia basilaris* & *O.*
echinocarpa are also common. *Yucca* & *Sarcobatus*
are common. A few *Yucca* & *Sarcobatus* seen. *Juniperus*
common in the dry Morongo Canon, also
mallee & further up. Lead scrub oaks

Intervales

Reptiles

Two, said to be open part of

Intervales River

2 *Spermophilus* sp. *gishae*
a few seen

3 *S. leucurus* abundant
said to be common

4 *Peromyscus* *tex.*

Two taken in same or probably
same place
5 *G. eremicus* - common

6 *Neotoma* *vir.* *gibb.*
a few seen

7 *N. l.* *macr.*
One taken in same place

8 *Thomomys* *subarcticus* - common

9 *Pipistrellus* *mes.* *similis* - abundant

10 *Perognathus* *peir.* *argus* *trich.*
Several taken

11 *Lepus* *tex.*
One taken a few seen

12 *Lepus* *cuticularis*
a few seen

13 *Felis* *p. eremicus*
Said to be common

14 *Canis* *lup.* *canis*

15

I General Description of 2
Situation, altitude
Topography
Rock formation
Climate
Vegetation {
Life zones

II ~~Life History~~ Life History
Range - vertical
abundance
Food
Enemies
Notes
Hou
Hab

7458	Mamm. in Alcohol		
7469	Akodon molonyae	Iduna Pampa	alt. 11,200 ft. 9
747	"	"	"
748	"	"	"
7508	"	Iduna	6000 ft. 12
7529	"	"	"
7568	Mus musculus	"	13
7579	"	"	"
7589	"	"	14
7599	Artibeus	"	"
7608	Phyllotis brown	"	16
7649	long tailed	"	"
765	Bat long tailed Phyllotis	(Glonofaga)	17
766	Akodon molonyae	"	"
7678	"	"	"
7729	Artibeus in House	"	"
7738	"	"	18
7859	Mus musculus	Santa Ana 3500	23
7869	"	"	"
7969	Molossus	"	"
7979	"	"	24
7988	"	"	"
7999	Akodon	"	"
800-28	Molossus	"	25
803-119	"	"	"
812-38	Akodon	"	"
814-69	Myotis	"	26
817-8	Molossus	"	"
819-249	"	"	"
828-30	Akodon	"	27
836-8	"	Huadquezinga 5000	29
8398	Mus musculus	"	"
8419	Phyllotis 2 only	Matchin Picchu 8000	30

OCT.

No. 5

Oct. 9] Remained in camp at Iduna Pampa as they call this place as it rained most of morning. ^{alt.} by aneroid 11,200 ft. corrected by add. 500 ft. Went deer + viscachas hunting with the owner of the hut ~~who~~ ^{both} said these animals were abundant. Rain however kept us from seeing anything. Shot a ~~Andigo chickadee~~ ^{warbler} ^{aspectus} + the lark were so common at Acobamba Pass. The road over here for the first league is flagged by large flat granite stones + built 3 feet wide in straight lines + is one of the ancient Inca roads but no ruins of terraces were seen + the road does not appear to continue ^{the} built of stone very far. The 2 ^{peaks} ^{we} ^{climbed} I should estimate at about 12,500 or 13,000 ft. I caught 3 species ^{juice} last night: 2 ~~Akodon~~ ^{Phyllotis} + a yellow ~~Phyllotis~~ ^{all taken before}.

(10) ~~First + last summit~~ ^{we departed on our journey to Iduna} 11,600 + 500 = 12,100 ft. ^{and} The road flagged by heavy stones + 3 ft. wide ^{and} ^{the} ^{was} ^{not} ^{for} ^{any} ^{but} ^{washed} ^{at} ^{many} ^{places} ^{the} ^{ancient} ^{Inca} ^{road}. At 2 hours after starting we crossed a good sized river which heads near ^{the} ^{ancient} ^{Inca} ^{road}.

Pass + here the Tucuman road joined our road. There was a hut here but no inhabitants. The road continued flanked by granite blocks of Inca construction at 1 P.M. or 2 leagues further on we crossed the divide + descended thru heavy montane forest to Idema. The rock formation changed here the granite stopping with the open cold grass ^{summit} + ~~the forest~~ ^{shale + clay + in places a block} ~~shale~~ ^{slate taking its place} ~~from the forest~~ ^{ran across}. In places the road was a yellow slippery clay cut into a series of deep ruts filled with water + one yard apart. The forest at the upper level ^{resembled} ~~was~~ like that of Machu Picchu but contained a few slender palms ^{in addition}. Lower down it resembled the ^{Florida} forest but lacked palms. Giant fig trees were seen frequently + tree fern abounded. Saw many small birds but few large ones + only one toucan. Near Idema we saw 2 ^{Pharyngodon} ~~Pharyngodon~~ the first one seen erected its hair on the rump when it ran away + the male a conspicuous cream colored face flag. ^{and was fleeing} ~~Painted~~ ^{part of day out} intervals. ^{we} Made camp at dark at Idema in an old pasture.

⑪ The night ^{was} cool with ~~some~~ misty rain. M + F came in about noon from Tucuman. They had camped only 2 leagues above me. The Adair students + other residents of Idre visited the

camp & looked at the specimens. ^{birds, mammals} They
said the Black Spider monkey was found here
also a small reddish one. ^{species} Deer, Pecaries +
agoutis ^{skinned also and} Jaguar ^{skinned into the country} +
Tibag bush dog (called ^{as the} ~~the~~ ^{called that})
was also seen about the fields + came very
close to the field numbers at times I went
shining up the road last night for agoutis
but saw nothing & heard nothing for agoutis
in bush

(12) Caught only a few ^{olive-brown} Atkinson ^{superciliosus} manducator in the
net traps. Set some traps for Cibicides in ^{agave}
a yuca field high up on side hill.

Went out monkey hunting with the Mayordomo in mountains above sugar mill a few miles from the road in forest. Trees small but without undergrowth. No ant.

I shot a few small birds but saw no large ones.
Met a troop of the yellow ~~squirrel~~ ^{cebus} monkeys
at and shot at them several times.
killed none.

killed none. I saw ~~in~~ ^{at} first ^{McCaughy} several times but
about 1000, also many trails of ^{the} ^{considerable} ^{peccary} ^{rutting}
about Iduna are the ^{stone} ^{works} of ^{the} ^{peccary}

country and our camp is divided into fields by stone walls which are arranged as terraces in some places. The water runs in ditches or on the hillsides & the ditches are 4 ft. wide.

On the hillsides & also rough terraces, broad
but irregular terraced formation. Most of the
ditches in use at Iduna seem to be
based on ancient waterways.

This one came out only a few yards & then set on his haunches for a long time looking for danger. He appeared perfectly black. I fired at him but missed & he dashed down the gulch thru the brush. Every day we have some four steel traps set on *Cihuatlan* runways & spring but none have yet been captured this way. Today a laborer brought me a fresh skin of a black of *proserum*. This was the driest day we have had here cloudy but with only one ten minute misty rain all day.

(17) Rained hard all morning. Caught no *Cihuatlan* in the traps, only a few more *Thryothorus* in the rat traps. Went with the two *Mayordomos* to 12 other *aguals* where there were *Cihuatlan* runways & set traps there. Saw a covey of 5 *Quercus* or *Penelope* *arvalis* in the brush as I was setting traps. Shot 5 more *Artibeus* bats in the ranch house but saw no more *Glossaplagas*.

(18) Another all morning hard rain occurred. I went out at 1 P. M. as soon as the rain stopped but found the *Cihuatlan* traps un sprung. They must have a good eye

for hard ground & refuse to stop where the earth has been disturbed by ~~the~~ ^{the} trap for their sense of smell is defective or else the natives could not shoot them at 3 feet ranges. Those I have seen gaze about intently when they come out into *agual* fields & seem to depend on that sight to detect an enemy. Caught a light brown *Phyllotis* which looks different from others I have secured.

I shot a new pigeon today *Ba. vinaceus* + blue color one. Fernis brought down the supplies from *Chilpancingo*.

(19) The morning was cloudy but rainless. In afternoon I went to *agual* to wait for *Cihuatlan* but heavy rain spoiled our ~~fun~~ ^{hunt}. Saw one small black *Cihuatlan* which ran straight into *agual* thickets & did not stop to look for ~~for~~ ^{for} danger in the rain.

(20) Caught a *Cihuatlan* in a steel trap at last but he left only one. Heard a boy ^{holding} ^{my} ^{trap} said he saw him early in morning in the trap. Saw another black *Cihuatlan* at the *agual* but did not get a shot at it.

(21) Caught only 2 brown *Phyllotis* in traps. Shot 3 new birds, a very small dove & a yellow supercilious striped flycatcher. Saw no *Cihuatlan* at the *agual* grounds.

(22) Broke camp at noon & moved down the road to Santa Ana. Day dry & clear for several

hours in the morning. At Santa Ana it was
dry & hot without ^{any} evidence of rain.
De la Hogue took me into the house. Very
little or no frost on the hillsides below Idesa.
Along ~~roadside~~ ^{the} ~~green~~ ^{occurs} is a second growth of bushes &
small trees. Shot a few birds on the way down
but saw few new ones. The long tailed ~~crested~~
~~spotted~~ ^{spotted} lizard was common on the road, also
at Idesa 4,700 ft. & at Santa Ana registered
3,600 which is marked ^{the} ~~on~~ ^{map} as 3,480 ft. This
would give Idesa an altitude of about
5000 feet. Cichuaynes Oates brackets
+ others mammals ^{are said to} ~~occur~~ ^{here} as at Idesa
The Oate is apparently the Tayra (Guisia)
instead of the bush dog as it is small &
short legged with long bushy tail. I have not
seen a skin. They have been domesticated
by De la Hogue.

(23) Day ^{was} partly cloudy but no rain. ^{had} caught 12 bats in ^{the} tiles of roof. Two species only were secured, ^{the} commonest was a small Molossus, & the other a brown Myotis. I spent day at home skinning birds & drying specimens in ^{the} coca-cola traps & in sugar mill had only 2 Mus musculus in them.

(24) Went with Carlos, Sangua to the river with a seine ^{to catch} for fish. The river was muddy & in one of the back waters we found an ideal place to fish ^{where there was a mud bottom}. We caught some 50 small fish of 3 species, a cat fish & 2 kinds of shiners. I found a large brown snake just killed upon which turkey vultures were feeding but I reserved it for the museum. I saw 2 of the large black cormorants on the river ^{the same species} and I saw a Combricatus. I shot a small blackish ^{grassquit - the}anager in the cane fields, also a black white-winged ^{tinny winged} ^{large} ^{grey} ^{bird} caught in traps. I also caught a large Corydoras. At dusk I hung the seine over the river & caught 12 Molossus but no Myotis. Day partly cloudy but no rain.

(25) In the morning went bird shooting in
the coca fields but found only birds already
had collected. Shot a black tanager, infans
Syrniallis, a dusky finch, & pygmy plane
etc. In the evening caught 11 bats in the
over tiles of the front, 3 were *Mops* & 8 *Molossus*
Carlos Riquelme caught a tree rat in his office & sent
me a small specimen in the
magnificent light box.

Saw several of the large *Phyllostomus* bats
light but considered about any ^{weight} to the dark

(26) Left at 10 A.M. with pack outfit for
Santa Rosa where we arrived at ^{5 P.M.} dark in a
rain storm. Went out with the manager for
ciguayras but saw none in ^{the} general. The
ranch is planted solely to coca with some
grain for home use. On ^{the} way up
the road was bordered by ^{with} a tall acacia
with white blossoms. A tall *cereus* cactus
was also common. ^{Algodobos} were seen
at Santa Rosa. Many Palo Santo
grew on the gravelly bars & creek margins.

(27) Heavy thunder shower during the night
nearly all night and ^{with} much rain. Left
at 8 A.M. & went to ^{Headguina} where
we arrived at 1 P.M. This ranch is
devoted to ^{coca} only, ^{no} coca being here
San Palo Santo & white flowered acacias
along ^{the} way up to ^{this point} but they do not occur
further in the ^{the} Canyon. Hills ^{side} of river
were slate & shale up to this point ^{with}
^{any} granite.

(28) No rain during the night. Caught 4 ^{snakes}
& one brown ^{snake} in the cane fields. Went
up road following Headguina creek for a league

to yuca fields where I saw one ciguayra.
Saw very few birds & no new ones at all.
Shot a Blue & vinaceous pigeon like ones seen
at Iduna. Several small fields of coca
occur here ^{for} ^{main} ^{yuca} only. Many
aguacate or palto trees were seen in the fields
where ^{there were also} with coffee, yuca & pacay trees. Headguina
is the upper limit of ciguayras, yuca,
coca & cane in the Humbamba valley.

Mamm. Hand quinger

- 1 Abodon - Abundant everywhere.
- 2 Phyllotis brown. A few taken
- 3 Citomys - One said In yuca. Said to be common.
- 4 Felis ocelot (Chinchay used her name)
One skin seen.
- 5 Felis pyrrhina? Lato montes - Said to uniform in color. Not seen.
- 6 Uta - a uate - Said to occur in fields with citomys eat among other things banana.
Grisonia
- 7 Adcoileus - Hand on mts at 8000 to 12000 ft.
- 8 Tremarctos
- 9 Mustela - Weasels said to occur.
- 10 Lemmus - Commonly attack mules & cattle

- Birds of Huadquina
- 1 Torrent Duck. - Several seen on creek
 - 2 Ani - common in cane - fields.
 - 3 White tailed Dove - common.
 - 4 Blue & Vinaceous Pigeon - One shot, another seen.
 - 5 Black Phoebe - common on creek
 - 6 Gray Kingbird - Abundant
 - 7 White-crowned Flycatcher - common.
 - 8 Song-tailed Fly Bird - "
 - 9 Rufous Trogon - Seen once.
 - 10 White bellied Hammer - a few seen.
 - 11 Crested Sparrow, common.
 - 12 Black Vulture "
 - 13 Red winged Black - One seen, med. size
 - 14 White Bellied Violet Swallow - Abundant
 - 15 Black-headed Red Start Warbler "
 - 16 Black-capped Orange "
 - 17 Black ant Bird - Several seen.

Vegetation Olancho

Cereus cactus - giant ones of valley; in
bloom in Oct, flowers white -

Cholla cactus - like but less abundant here.

Willows -

Alder

Stands

Encallonia

Mistina

Gray Saponaria

Reeds -

Splintered shales - yellow

Soil black

Granite - across river

Birds - Formalin + alc.				Est.
591	Yellow Warbler	Iduna 900 ft.		10
592	Trail Flycatcher	"	"	"
593	Spotted Tree Creeper	"	"	"
594	Indigo Honey	"	"	"
595	Little Broad Bill	"	6,000	12
603	White Bellied Vireo	"	"	15
604	Gray Kingbird	"	"	"
605	Light Blue Tanager	"	"	"
606	White crested Flycatcher	"	"	"
607	White Bellied Vireo	"	"	"
611	Vermillion crowned Flycatcher	"	"	17
642	Yellow Broadbilled Warbler	"	"	22
643	"	"	"	"
644	Cotton top Flycatcher	"	"	"
645	House Wren	"	"	"
657	Rufous Wg Wren-Tit	Santa Ana 3,000		25
668	Blue Grosbeak	Tombury 8,000 Nov. 2		

collected

Birds of Rio Cosireni + Combrevisato

1. Tinamou (Large Slaty) - *Chir - ch - ch*
Many seen solitary in forest near Uvini + a few at S. Fernando. Often seen running in road 100 yds. away. Note a clear whistle.
2. Tinamou (Rufous headed) - *Chir - chir*
Seen in same country as last except S. Fernando. Solitary. Note same apparently.
3. Tinamou - (Small purplish)
Found in same country as last + solitary also. One caught in steel trap set on Uvini trail.
4. Cormorant -
A large sized one, size of goose, seen in Combrevisato River only.
5. Sun Bittern - Mach. Chi-vi-nu
Seen solitary on gravel banks of Combrevisato. One shot by laborer at Uvini.
6. Spotted sandpiper -
One shot on Combrevisato where others were seen.
7. Parulid Mach. Pau - heel *Cha - chir - chir*
Seen in Combrevisato forests where 5 were shot. Usually paired + when flushed take to trees. Often lured by machizangas.
8. White-crested Pava - Mach. Ky - u - ru *Pip - pip*
Very common in Combrevisato forests where many were shot. Habits like last.
9. Brown streaked Pava Mach. San-ga-ti *Pip - pip*
Seen about Uvini, Combrevisato + S. Fernando. Note a deep growl like that of monkey. Usually seen solitary.
10. Black Pava - *Chir - chir*
Seen near Uvini + several times at S. Fernando. Habits like parulid.
11. Chitchara Parulid - *Chir - chir*
Found at Uvini camp where seen several times. Very noisy + travel thru forest in small parties. One shot.

- 12 Golden-crested Quail
One shot at Uvini - Small coveys often flushed in forest. Mach. Pa-mor-ro
- 13 Trumpeter -
One seen domesticated at Uvini, not seen in forest.
- 14 Spotted Night Heron - One seen at Uvini + another above S. Hernandez.
- 15 Condor - Two seen one day above Pachinal at Uvini but they are very rare this low
- 16 Black Vulture Abundant at Uvini, Combrecito + S. Hernandez about dwellings everywhere
- 17 Slaty Kite Several seen + 2 shot but lost from decay. Mach. Pa-chi-a
- 18 Small Butler - Two shot on Combrecito, not seen elsewhere. Mach. Uvini
- 19 Sparrow Hawk - a pair seen at S. Hernandez.
- 20 Black-brown Gallinule. - One caught in other trap on Combrecito, not seen elsewhere
- 21 Purple Wood Pigeon - Common in Forest in pairs or small flocks. Note very striking + imitated by Machigangas often. Mach. Sam-bachi
- 22 Pink Wood Dove - Several seen in forest at Uvini
- 23 White-bellied Savanna Dove - One shot at Uvini - Others seen.
- 24 Quail Dove - Two shot at S. Hernandez + caught there in steel trap.
- 25 Yellow-tailed Talking Parrot One shot on Combrecito. Many seen in huts at Uvini bought of Machigangas. Mach. Sim-tar-ro
- 26 Blue-headed Parakeet Many seen about Machiganga houses.

- 27 Crimson-tailed Parakeet. Seen in flocks also domesticated by Machigangas. Mach. Mi-mia-hi
- 28 Yellow-winged Green Parrot. One shot at Uvini. Seen in flocks often. Mach. Par-ret-to
- 29 Green Macaw - Often seen in pairs at Uvini. One shot but lost by decay.
- 30 Sharp-tailed White-eyed Parrot. Seen on Combrecito at Machiganga Village.
- 31 Little Green Parakeet. Many seen about Machiganga huts.
- 32 Large Green Vireo - Not. One shot above S. Hernandez. Not seen elsewhere
- 33 Blue Kingfisher - One seen at Uvini + another on Combrecito.
- 34 Rufous Scaled Owl - One shot at Uvini, no others seen.
- 35 Large Boat-tailed. Abundant at Uvini in open fields where they called at dusk every day. Mach. Pi-ni
- 36 Small blackish Boat Sucker - One shot above Uvini at Pachinal where others were seen
- 37 Brown Swift. Often seen in flocks at Uvini also on Combrecito.
- 38 Blue-headed Trogon. Several shot at Uvini. Mach. Chon-gon-ni
- 39 Rufous long-tailed " Seen at Uvini + on Combrecito. Common. Mach. Chi-gi-ni
- 40 Small Olive Trogon - One shot at Uvini
- 41 Barred-tailed " Several seen at "
- 42 Yellow Puff Bird - a pair seen
- 43 Streaked " One shot on Combrecito
- 44 no others seen.
- 45 Red Banded Toucan. Common at Uvini. Mach. Ni Pe-sek-ta
- 46 Large white-throated Toucan - Seen often at Uvini + Combrecito
- 47 Short-billed Toucan - One seen + shot on Combrecito

- 48 ^{mach. kum-tse-ni} Song-cork - Common at Urini + Combrecto
 49 Small Red woodpecker - One shot at Urini,
^{also} seen also at S. Hernandez
 50 Red-capped Woodpecker - Shot on Combrecto
 51 ^{only} Large May Tyrant Flycatcher - Seen at Urini
 S. Hernandez + Combrecto
 52 ^{only} Pygmy gray Flycatcher - Seen at Combrecto
 53 Small Hoopoe Flycatcher - " at S. Hernandez
 54 ^{only} Black Woodpecker - One seen domesticated
 at S. Hernandez, not seen in forest.
 55 Cuck of Rocks - Often seen + heard at Urini,
 One shot, note a ground.
 56 Long-tailed Manakin Thrush - Shot at S. Hernandez
^{only}
 57 Ruby-throated Hummer - One shot at Urini.
 58 Emerald Green " " seen on
 Combrecto, Mach. Chum-gin-ni
 59 Buff-legged Hummer - One shot at S. Hernandez
 60 Red-billed " " " "
 61 Long-billed Tree Creeper - Several seen
 at Urini + S. Hernandez
 62 Recurved-billed Tree Creeper - One shot
 at S. Hernandez, not seen lower down.
 63 White-headed Angel - One seen at Urini
 Bridge but no others
 64 Brown House Wren - One shot at Urini where
 they were common + in song.
 65 Violet & drab Swallow - Common at Urini
 Bridge
 66 Large White-bellied Vireo - Shot at Urini +
 S. Hernandez

- 67 Black-headed Blue Magpie - Common
 in small flocks on Combrecto. Seen also
 near Urini Mach. Chum-ni
 68 Lesser Indigo Honey Creeper - One shot
 at S. Hernandez, no others seen.
 69 Five-colored Tanager - Several shot at
 Urini + Combrecto, seen also at S. Hernandez
 70 Black-streaked yellow Tanager - Shot in
 forest at Urini
 71 Brown Tanager - Shot at Urini only
 72 Scarlet " " " Mach. Chum-ni-ti
 S. Hernandez only
 73 Brown + Gold Tanager " "
 74 Black ^{mach. ka-chadri} ~~Carnegie~~ - Many seen at Urini
 + everywhere - Trees with nests common.
 75 Brown Carnegie - Less common.
 76 Golden-capped Tanager - Shot at Urini
 77 Pygmy Broad Bill - Shot at Urini
 also on Combrecto
 78 Streaks-breasted Creeper - Shot at Urini only
 79 Olivaceous Bob-tailed Vireo " " " "
 80 Red-billed ^{dacana} Trogon - Often seen at
 Urini + on Combrecto. One shot.
 81 Long-tailed Broad Bill - Shot at Urini
 82 Red-capped Sparrow - Several seen near
 camp at Urini
 83 Song-billed Black & yellow Warbler - Several
 seen at Urini
 84 Short-tailed Green Tanager - Shot at Urini
 also at S. Hernandez
 85 Slender-billed Brown Tanager - Shot at Urini
 86 Yellow Notch - " Tanager - Shot at Urini
 87 Umbrella Bird - Shot on Combrecto, another
^{mach. chin-ku-winkto}
 seen solitary, not seen elsewhere. In-gi-to
 88 Shore Finch - Shot on Combrecto banks only

- 89 Fork Flycatcher - One shot on Conchucito but not seen elsewhere.
- 90 Orange-headed Black Tanager. One shot on Conchucito, not seen elsewhere.
- 91 White Spotted Honeycreeper. Several pairs seen in banyans on Conchucito but not elsewhere.
- 92 Plum-Tanager. One shot at S. Fernando, a ♀, the ♂ is light blue. Several other pairs seen there.
- 93 Short-tailed Goldfinch. Seen in flocks at S. Fernando. A goldfinch also seen on Conchucito.
- 94 Wh. Throated Flycatcher. Several seen at S. Fernando.
- 95 White-crested Flycatcher. Several seen at S. Fernando. Two shot.
- 96 Yellow-browed Warbler - Several seen at S. Fernando.
- 97 Blue & Black Metallic Tanager - One shot at S. Fernando.
- 98 Dusky Finch. Several seen at Uvini.
- 99 Olive & Yellow Tanager. One shot at S. Fernando.
- 100 Brown bearded Hummer. Seen at Uvini also at Lucma + at Paso.

Idina - Geology

Slopes of hills about valley without rock formation, composed of bright red soil overlain by a black vegetable mould. Rocks along creek all granite boulders. Cultivated area of valley & hillsides cleared forest land. Hillsides to top of mountains from Idina down to Umbaucho burned off forest which now support a dense grass & brush (chiefly a dark flowered composite). Originally this whole valley & the Umbaucho state junction was covered by a heavy mountain forest.

Rain daily but only short quiet showers. Few over biting insects in forest or elsewhere. Ants not very troublesome.

Reptiles

- Snake none seen
- 1 - Lizard green headed rock lizard. Seen on rock fence & caught in rat traps.
- 2 - Quenidophorus - large whip-tailed lizard common on road below Idina.

Trees - Iduma

- 1 Cecropia - common forest tree.
 - 2 Ficus - a few large ones seen on road to Tucuma.
 - 3 Palo Santo - common near stream in flower.
 - 4 Stump bilobed palm. - "Hendersonia" in forest.
 - 5 Bamboo - grass - abundant in forest & stream banks.
 - 6 Slender stemmed Prunella palm. Seen at crest of valley on Tucuma road at about 1,000 ft. altitude.
 - 7 - Flat topped Prunella Palm - a few in forest, also some at Hacienda.
- No prickly leaveda stemmed palms seen in forest or near by long Raphia like leaves, all of which were characteristic of Coserini Forest.

Mammals of Iduma

- 1 Ateles - Black & white monkey said to occur.
- 2 Chrysotrix - Encountered a herd of small yellow monkeys in forest which may have been this species as they were of about their size & uttered similar notes. Shot at three but failed to kill them.
- 3 Mides - Tame one seen by Gibbet at S. Area.
- 4 Dicotyles - Said to occur in forest near camp.
- 5 Grison - Ocate Said to occur in fields of finca.
- 6 Mazama - Said to occur on edge of fields.
- 7 Conepatus - " " " "
- 8 Mustela - One caught on cilimayra running at edge of yuca field.
- 9 Tremarctos - Said to occur higher up. None shot this year. In the low country near Rosalia they are said to be red in color, no black ones occurring.
- 10 didelphis - A black skin fresh brought to camp by an Indian.
- 11 Hesperomys - Cilimayras occur in all the yuca fields. These they enter at dusk or 4-6 P.M. But there are only 1 or 2 in a field & they are very wary. Saw 8 but killed none. Traps set on runways were not sprung except in one case where a toe was left in a trap.
- 12 Akodon - A short tailed olive race was found everywhere.
- 13 Phyllotis - A long tailed light brown one caught in fields.
- 14 Mus musculus - Common in houses.
- 15 Arctomys - Shot inside room at finca.
- 16 Akodon - " " "

Birds at Idreva.

Bird Fauna much like that of Umbaumba at Matchu Picchu with the addition of some Amazon valley species.

- 1 Turquoise - One seen near summit of Izcuna road but species not determined. None heard subsisting in forest.
- 2 - Black Vulture - common about houses.
- 3 - Sparrow Hawk - Seen several times at ranch.
- 4 Torrent Duck - a pair seen in the stream.
- 5 Square-tailed Dove - common about fields. coll.
- 6 Blue & Vinaceous Pigeon - a few seen in trees. coll.
- 7 Pigeon Dove - Two shot. Not common.
- 8 Chachalaca Valisula - Several flocks of 4-6 seen. coll.
- 9 Large Green Heron - a few seen. coll.
- 10 " Rocket-tailed " " " " but not collected
- 11 Little White-bellied " Common on pinyon trees
- 12 Dull Green " a few seen.
- 13 Kingbird - Abundant
- 14 Long-billed Kingbird. One shot, others seen.
- 15 Long-crested Flycatcher - Seen at 10,000 ft. one shot
- 16 Vermillion-crowned Kingbird. Common, several shot
- 17 Yellow " One seen, 1 shot.
- 18 Colton top Flycatcher. Common, collected.
- 19 Traill's Flycatcher - Seen at 10,000 ft.; shot.
- 20 Rufous-breasted " " " "
- 21 Pigeon Emerald Heron - a few seen.
- 22 Black-throated Broad-billed Warbler. One shot at 9,000 ft.
- 23 Blue-capped Yellow Warbler - One shot in forest.
- 24 Black-masked " " - Seen in cane fields
- 25 Yellow Warbler - Seen at 10,000 ft. coll.
- 26 Olive Flycatching Warbler - One shot.
- 27 & 28 Crimson-headed Black Tanager - Common 3 ♂ 1 ♀
- 28 " Black with white-lined wings " " "
- 29 Black-headed Slaty Tanager. Several seen & shot.
- 30 Azure Blue Tanager - Common
- 31 Golden-throated Metallic Tanager - a few seen.
- 32 White-throated Snowbird Tanager - One shot, others seen.
- 33 Black-headed Finch - a few seen in cane fields.
- 34 Lutescent Finch " " " "
- 35 Yellow-winged Seedeater " One shot " " "
- 36 Crested Sparrow - Common in brushy fields
- 37 Black-headed Goldfinch " " " "
- 38 White-bellied Vireo - Abundant
- 39 Rufous-winged Wren-Tit - "
- 40 House Wren - Common
- 41 Song-tailed Pro-Bill - abundant.
- 42 Spotted Tree Creeper - Seen at 9,000 ft.
- 43 Black & Buff Honey Creeper - a few seen.
- 44 Indigo " " - Seen at 9,000 ft.
- 45 Black-headed Red Start - Abundant
- 46 Quail Dove - a few seen in forest.
- 47 Olive Cuckoo - a few seen - coll.
- 48 Black Robin - Seen at 10,000 ft.
- 49 Brown " " " "
- 50 White-headed Vireo - Seen once on creek
- 51 White-bellied Blue Shallow - common at finca
- 52 Lutescent Swallow - a few seen.
- 53 Green parrot - Common
- 54 Ani - abundant in fields
- 55 Tongue-cats of Rocks - a few seen in forest.

Mamm. S. Area.

- 1 - Akodon short-tailed - Abundant in cane fields
- 2 - Mus musculus - house
- 3 - Tree Bat - One taken in house by C. Leque.
- 4 - Molossus - Very abundant in roof tiles when many were caught in net.
- 5 - Myotis (dark) - Several taken in roof tiles with associated with Molossus
- 6 - Didelphis - One black one taken in sugar mill.
- 7 - Cane rat (short tailed) Said to occur in fields but none seen.
- 8 - Dasypoda - The chiguayin said to occur in the yuca fields but rare.
- 9 - Oryzomys - brown rat, One caught in cane field
- 10 - Vampyrops - Several seen in sugar mill
- 11 - Mazama - Said to occur on edge of fields.
- 12 - Felis ocelotus - One caught by Indians.
- 13 - Grisonia - Ocelot - Said to occur
- 14 - Felis onca - Jaguar occasionally kills cattle.

Birds -

15 years ago Carlos Leque said Parula Pavo & Perdis were common in fields S. Area but have been shot by Indians & are now found only many miles lower down Valley.

Birds of S. Area.

- 1 Turkey Vulture - many seen, upper limit in valley.
- 2 Black Vulture - Very common.
- 3 Bulwer - Small brown One seen
- 4 Small Horned Owl - common in buildings S. Area
- 5 Cormorant - Several seen in river.
- 6 Anhinga - Seen with cormorant, same color.
- 7 Rufous long-tailed Trogon - a few seen.
- 8 Acia - abundant in fields.
- 9 Black-headed red finch - common in local.
- 10 Hairy Finch - " " "
- 11 Crested Sparrow - common in fields. Lower limit doubtless as none seen at river.
- 12 White bellied Violet Swallow - common in house
- 13 Dusky Swallow - a few seen.
- 14 Giant Swift - Seen in flocks
- 15 Gray Kingbird - Abundant
- 16 Red & yellow Crested Kingbird - a few seen.
- 17 - Small blackish Tanager - Seen in fields
- 18 Black, white winged Tanager - " " bush
- 19 White bellied Vireo - Abundant
- 20 Azurea Tanager - Seen in fairs.
- 21 Yellow singing " Seen in a cage only.
- 22 House Wren - Common.
- 23 Rufous winged Wren - T. T. Common.
- 24 Black masked Warbler - Seen in cane.
- 25 Pygmy dove - abundant.
- 26 Spurred " - in fields.
- 27 Long tailed Big Bill - abundant.
- 28 Green Hummer - a few seen
- 29 White-crested Flycatcher - common

- 30 Brown crested Woodpecker. Several seen
in road above S. Area.
- 31 Black Cuckoo - Several seen.
- 32 Red crested Tanager - common. One
collected.

Bird fauna not distinctive.

Santa Ana is situated in a very
wide part of Mimbura Valley with
a square league or 2 of ~~low~~ level fields.
Found only on mountain tops at 8,000-10,000
ft. sides & floor of valley treeless except
along river side where are a few algaroba &
acacias, ^{Palo Santo} Scaevola & other trees. Only rock
formation is a slate seen in a few places.

Birds of Allantaytambo

- 1 Titmouse (brown streaked) Several seen at Piri, one shot. Others said to occur above All. a few miles
- 2 Condor - Common on mountains bordering the town & up the creek
- 3 Sparrow Hawk - many seen.
- 4 Sharpshin " - a few small hawks seen.
- 5 Great Horned Owl - One purchased from a native
- 6 ~~Scrub~~ Night Jay - Seen in road at dusk.
- 7 White Eagle Seen by H & M at Pumaramarca.
- 8 Giant Hummer - common, but no brilliant males seen.
- 9 Long tailed Hummer. Several seen, females only in April & May in November many males
- 10 Dull Green Hummer, a few seen above Pumaramarca at 12,000 ft.
- 11 White-tailed Hummer - a few seen.
- 12 Large Green " " "
- 13 Buff Black " - Several shot above Pumaramarca at 12,000 ft, not seen elsewhere in Peru.
- 14 White Shouldered Wood Pigeon - Common at Piri & Pumaramarca in flocks in large trees.
- 15 Turtle Dove. Many shot at Piri
- 16 Black Tailed Dove - shot above Siguni 2,000 ft.
- 17 Spotted " " shot at Allantaytambo at Pumaramarca.
- 18 Crested Sparrow - commonest bird in field & gardens.
- 19 Black throated Grosbeak - Common about gardens & hedges.
- 20 Slaty Finch - Seen high up at 13,000; above Pumaramarca.
- 21 Slate-colored yellow Billed Finch. - Seen on road-side & garden.
- 22 Black-headed Goldfinch. Common in fields
- 23 Olive Goldfinch - Seen in garden.
- 24 House Wren. Common in garden. One nesting in November in rain gauge; 3 eggs in nest.
- 25 Gray Kingbird - Several seen in garden.
- 26 White-eyed, slaty Flycatcher - Seen in garden.
- 27 Slaty cat-birdhawk - a few seen.
- 28 Black Robin - Common at Pumaramarca & above in bush & forest.
- 29 Brown Robin. Very abundant in gardens & hedges.
- 30 Indigo Titmouse - Shot above Pumaramarca.
- 31 Black & Chestnut Honey Creeper - One shot at 12,000 ft. at Pumaramarca.

Mammals of Altiplano

- 1 *Lepus* - *Savillei* common.
- 2 *Mustela* - 3 brought to us by natives, sent to live about houses & feed on mice.
- 3 *Canis* - *Quoyi* seen at Punaamarca by Has. several times.
- 4 *Conopates* - *Savillei* common.
- 5 *Odocoileus* - Seen in many places in the vicinity from 8000 feet to 14000 ft. all seen to be forked horned type. A herd of 9 seen by Mr. at Silgue, or he others seen were in pairs or single.
- 6 *Mus musculus* Common in houses.
- 7 *Vireaccia* - Abundant in high ranges at 12000 to 15000 feet in rock piles bordering meadows or pampas.
- 8 *Atodon* (yellow) common near head of creek at 13000-14000 feet.
- 9 *Rhipidomys* (short-tailed) common in same locality.
- 10 " " long " " " " " "
- 11 " " " " " " " "
- 12 *Axyrocyon* - " " " " " "